Abstract

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Title of diploma thesis: Metabolism of ivermectin in selected plants

Ivermectin can enter the environment through the excrement of treated animals like other anthelmintics and it can cause a large number of side effects in the ecosystem, accumulate in plants and affect invertebrates. Due to these causes, resistance of individual parasites can occur. In this work we focused on the study of the biotransformation of ivermectin in common meadow flowers which include thale cress (*Arabidopsis thaliana*), ribwort plantain (*Plantago lanceolata*) and soybean (*Glycine max*). Plants were able to metabolize ivermectin by first phase biotransformation enzymes, producing metabolites that were identified by high performance liquid chromatography-mass spectrometry (UHPLC-MS). Cross-species differences were noticeable, especially in terms of the number of metabolites found in individual plants. The unmetabolized parent compound ivermectin was also detected in plants.